

CLAIMS

1. A method for transferring IP data comprising payload and header fields, the method comprising:

allocating at least two logical connections for the transfer of header fields compressed on the basis of different contexts; and

transferring the header fields compressed on the basis of the different contexts on separate logical connections.

2. A method according to claim 1, wherein a logical connection is allocated to the header fields of the initiation/refresh state and a logical connection to the header fields of a first state and the header fields of a second state; and

the compressed header fields are transferred on one of said two logical connections, depending on the compression state.

3. A method according to claim 1, in which a radio resources control (RRC) protocol is used for the management of radio resources, wherein the parameters of said logical connections are signaled between the RRC protocol entities;

said logical connections are mapped to the packet data convergence protocol layer entity;

said logical connections are reconfigured when necessary; and

said logical connections are released in response to the removal of said convergence protocol layer entity.

4. A method according to claim 1 in which the compression is controlled on the packet data convergence protocol layer of a mobile communications system, wherein the header fields and payload of an IP packet to be transferred are separated on said convergence protocol layer;

the header fields are compressed using the selected compression algorithm and compression context;

the payload is transferred on a logical connection allocated to it and the header fields on logical connections allocated to them according to the context;

the header fields received on the logical connections are decompressed on the convergence protocol layer of the recipient according to the negotiated compression algorithm and compression context, and

the header fields and the payload are combined on the recipient's convergence protocol layer.

5. A method according to claim 1, wherein at least separate radio bearer parameters are reserved for said logical connections to be allocated to the header fields compressed on the basis of different contexts.

6. A method according to claim 1, further comprising:
synchronizing the channels to be used for said logical connections.

7. A telecommunications system comprising compression means for compressing and decompressing the header fields of IP packets to be transferred, wherein the telecommunications system is configured to allocate at least two logical connections for the transmission of header fields compressed on the basis of different contexts; and

the telecommunications system is configured to transfer the header fields compressed on the basis of different contexts on said separate logical connections.

8. A telecommunications system according to claim 7, wherein the telecommunications system is configured to allocate at least two logical connections for the transmission of the header fields compressed on the basis of different contexts and at least one logical connection for the payload.

9. A telecommunications system according to claim 7 or 8, wherein the telecommunications system is configured to reserve at least separate radio bearer parameters for said logical connections to be allocated to the header fields compressed on the basis of different contexts.

10. A mobile station comprising a data link layer configured to transfer data to and from a packet radio network, wherein the mobile station is configured to allocate, in response to an instruction received from the packet radio network, at least two logical connections on the data link layer for the

transmission of header fields compressed on the basis of different contexts; and

the data link layer is configured to transfer the header fields compressed on the basis of different contexts on said separate logical connections.

11. A mobile station according to claim 10, comprising a radio resources control protocol layer which controls a packet data convergence protocol layer of the data link layer, wherein the radio resources control protocol layer is configured, in response to an instruction transferred by the radio resources control protocol layer of the packet radio network, to map an entity of the packet data convergence protocol layer to logical connections for payload and for at least two different compress states;

the packet data convergence protocol layer entity is configured to separate the payload and header fields of an IP packet to be transferred;

the packet data convergence protocol layer entity is arranged to compress the header fields using the selected compression algorithm and compression context; and

the packet data convergence protocol layer entity is configured to transfer the payload and the header fields compressed on the basis of different states on the logical connections allocated to them.

12. A mobile station according to claim 10, comprising a radio resources control protocol layer which controls a packet data convergence protocol layer of the data link layer, wherein the packet data convergence protocol layer entity is configured to decompress the header fields received on the logical connections according to the negotiated compression algorithm and compression context, and

the packet data convergence protocol layer entity is configured to combine the header fields and the payload.

13. A radio network controller of a mobile communications system comprising a data link layer configured to transfer data to and from a plural number of mobile stations, wherein the radio network controller is configured to allocate at least two logical connections on the data link layer for transmission of header fields compressed on the basis of different contexts; and

the data link layer is configured to transfer the header fields compressed on the basis of different contexts on said separate logical connections.

14. A radio network controller according to claim 13 in which a radio resources control protocol layer controls a packet data convergence protocol layer of the data link layer, wherein the radio resources control protocol layer is configured to transfer to the radio resources control protocol layer of the mobile station an instruction for the allocation of logical connections;

the radio resources control protocol layer is configured to map an entity of the packet data convergence protocol layer to logical connections for payload and for at least two different compression states;

the packet data convergence protocol layer entity is configured to separate the payload and header fields of an IP packet to be transferred;

the packet data convergence protocol layer entity is arranged to compress the header fields using the selected compression algorithm and compression context; and

the packet data convergence protocol layer entity is configured to transfer the payload and the header fields compressed on the basis of different states on the logical connections allocated to them.

15. A radio network controller according to claim 13 in which a radio resources control protocol layer controls a packet data convergence protocol layer of the data link layer, wherein the packet data convergence protocol layer entity is configured to decompress the header fields received on the logical connections according to the negotiated compression algorithm and compression context; and

the packet data convergence protocol layer entity is configured to combine the header fields and the payload.